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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/690,319	10/20/2003	Jeffery N. Gleason	2269-5157.1US (01-1004.01)	1135
24247	7590	09/22/2005	EXAMINER	
TRASK BRITT P.O. BOX 2550 SALT LAKE CITY, UT 84110			TRINH, HOA B	
			ART UNIT	PAPER NUMBER
			2814	

DATE MAILED: 09/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/690,319

Applicant(s)

GLEASON, JEFFERY N.

Examiner

Vikki H. Trinh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 July 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>07/05/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Acknowledgement

Claims 1-8 are pending in this present application.

Claim Objections

1. Claim 1 is objected to because of the following informalities: In claim 1, line 3, “an intermediate” should be “the intermediate”. Appropriate correction is required.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-5, and 7-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Manley (6,235,557).

Manley discloses, as to claim 1, an intermediate structure of a post-probe tested semiconductor device comprising at least one open fuse structure 420 (fig. 2H) on the intermediate structure; and a metal feature 440 (col. 6, lines 33-35 and fig. 2H) plated on a first metal structure of the intermediate structure, wherein a metal of the metal feature is present on the first metal structure and is not present on the at least one open fuse feature structure (fig. 2H).

Note that an intermediate structure is a structure before the final structure is complete.

As to claim 2, the metal feature 440 (fig. 2H) comprises an electrolessly plated metal feature (col. 5, lines 50-55).

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As to claim 3, the metal feature 440 (fig. 2H) is a metal layer, an interconnect cap, a redistribution layer, or a bond pad (col. 6, lines 33-35).

As to claim 4, the metal feature is the metal layer (col. 6, lines 33-35).

As to claim 5, the metal feature 440 (fig. 2H) comprises copper (col. 2, line 32).

As to claim 7, the first metal structure 440/430 (fig. 2H) comprises at least one bond pad (col. 6, lines 33-35).

As to claim 8, the intermediate structure is an intermediate structure of an SRAM or FLASH memory chip (col. 7, lines 40-45).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Manley, as applied to claim 1 above, in view of Motulla (6,335,626).

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Manley discloses the invention substantially as claimed. However, Manley does not explicitly teach that the metal feature has nickel feature.

Motulla discloses a SRAM having a substrate and a metal feature, pad, 15 (fig. 1) which has nickel material/feature (col. 4, lines 62-66).

Manley and Motulla are analogous art because they are in the same field of improving memory devices.

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to modify the metal feature of Manley with nickel feature, as taught by Motulla, so as to provide an alternative metal feature for the structure.

Response to Arguments

6. Applicant's arguments filed 07/05/05 have been fully considered but they are not persuasive.

I. IDS filed on July 05, 2005, has been considered and initialed.

II. Claims 1-5, 7-8 rejection is maintained because Manley meets every elements of the present invention. See rejection above. However, applicants argue that Manley discloses an oxide layer which subsequently covers the fuse, thereby being a closed fuse instead of an open fuse. On the contrary, applicants claim an intermediate structure which is not a final product. Thus, during an intermediate process of making the final product, the fuse of Manley is an open fuse. Accordingly, applicants contend that Manley does not explicitly teach an electrolessly plated. The terms "electrolessly plated" are broad. Thus, Manley meets the limitation with the patterned metal feature or bond pad. Lastly, applicants argue that Manley does not disclose the

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limitation of claim 5. However, applicants admit that Manley discloses a copper alloy material which is interpreted as the copper feature, as claimed. Therefore, claims 1-5, 7-8 are maintained.

III. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Manley discloses the invention substantially as claimed. However, Manley does not explicitly teach that the metal feature has nickel feature. Motulla discloses a SRAM having a substrate and a metal feature, pad, 15 (fig. 1) which has nickel material/feature (col. 4, lines 62-66). Manley and Motulla are analogous art. Thus, Mortulla cures Manley's deficiency.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Vikki Trinh whose telephone number is (571) 272-1719. The Examiner can normally be reached from Monday-Friday, 9:00 AM - 5:30 PM Eastern Time. If attempts to reach the examiner by telephone are unsuccessful, the Examiner's supervisor, Mr. Wael Fahmy, can be reached at (571) 272-1705. The office fax number is 703-872-9306.

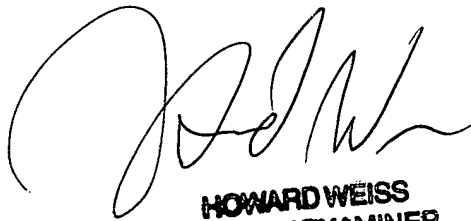
Any request for information regarding to the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Also, status information for published applications may be obtained from either Private PAIR or Public Pair. In addition, status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. If you have questions pertaining to the Private PAIR system, please contact the Electronic Business Center (EBC) at 866-217-9197 (toll free).

Lastly, paper copies of cited U.S. patents and U.S. patent application publications will cease to be mailed to applicants with Office actions as of June 2004. Paper copies of foreign patents and non-patent literature will continue to be included with office actions. These cited U.S. patents and patent application publications are available for download via the Office's PAIR. As an alternate source, all U.S. patents and patent application publications are available on the USPTO web site (www.uspto.gov), from the Office of Public Records and from commercial sources. Applicants are referred to the Electronic Business Center (EBC) at <http://www.uspto.gov/ebc/index.html> or 1-866-217-9197 for information on this policy. Requests

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to restart a period for response due to a missing U.S. patent or patent application publications will not be granted.

Vikki Trinh, 
Patent Examiner
AU 2814


HOWARD WEISS
PRIMARY EXAMINER